

REMARKS/ARGUMENTS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-20 remain active in this case.

In the outstanding Office Action, Claim 2 was rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Claims 1-20 were rejected under 35 U.S.C. § 103 as being unpatentable over Englmeier (U.S. Patent No. 5,423,549) in view of Barnhill (U.S. Patent No. 5,112,055) and further in view of Stoffer (U.S. Patent No. 5,463,376).

Applicants respectfully traverse the outstanding grounds for rejection because, in fact, Claim 2 clearly finds enabling support in the specification, and further, Claims 1-20 patentably distinguish over the applied prior art, for the reasons as next discussed.

The outstanding rejection of Claim 2 under 35 U.S.C. § 112, first paragraph, is based on the finding that “the specification does not designate what the ‘predetermined time’ is after actuation of the switching device therefore it is not enabled.”¹ Applicants respectfully dispute this finding as being incorrect. In support of Applicant’s position, Applicant directs attention to the disclosure at page 8, lines 4-17, page 10, lines 5-13, and page 13, lines 18-20 of the specification. As noted at page 8, lines 5-6, “the present invention only needs an electromagnetic signal for a very short time, i.e., a few seconds.” The specification teaches the provision of a timing switch 30 and then optional second timing circuit 36 to control exactly how long, and when, the transmission of an electromagnetic signal occurs. In one embodiment described in relation to Figure 4 at page 10, lines 5-13, the second timing circuit 36 is employed in addition to the timing switch 30, so as to control transmission during the time period from T₂ to T₁ as shown in Figure 4. In this embodiment, the electromagnetic

¹ Official Action dated December 9, 2005, page 2, last paragraph.

transmission is delayed from T_0 when the ball is actually hit, to the time T_2 determined by the second timing circuit 36 so as to produce pulse transmission during the time from T_2 to the time T_1 as shown in Figure 4 and as described at page 10 of the specification. In keeping with the above-identified disclosure at page 8, lines 5 and 6 that the present invention only needs an electromagnetic signal for a very short period of time, i.e., a few seconds, persons skilled in the art would recognize that the Figure 4 transmission time from T_2 to T_1 is “a few seconds.” Furthermore, in consideration of the statement at page 8, lines 12-13 that “the secondary timing circuit can be set to delay the transmission of the electromagnetic signal for several seconds,” it is clear that persons skilled in the art will understand that the time period T_0 to T_2 in Figure 4 is on the order of “several seconds.” The Examiner is requested to take judicial notice that “several” usually can be interpreted to mean from 2 to 4, 5 or 6 seconds or even more, and so one can expect that the time from T_0 to T_1 shown in Figure 4 is on the order of 4 to 12 seconds.

Applicant’s specification at page 8, lines 14-17 further makes clear that “second timing circuit 36 is not essential [in that] in one preferred embodiment, the transmitter continuously transmits an electromagnetic signal from the time the switch 30 is turned ON, i.e., when the golfer hits the ball, to the time the switch 30 is turned OFF.” In this preferred embodiment, therefore, it is clear that electromagnetic signal transmission occurs from T_0 to T_1 on the order of from 4 to 12 seconds. Consistent with this disclosure, Applicant’s specification at page 13, lines 18-20 further explains that the time equal to T_1-T_2 can be made as long as 10 seconds. Thus, given this disclosure, it is respectfully submitted that Applicant’s specification is clearly enabling as to what is meant by “a predetermined time after actuation of the switching device” as stated in Claim 2 and that the rejection of Claim 2 under 35 U.S.C. § 112, first paragraph, is traversed. Withdrawal of this rejection is therefore respectfully requested.

Applicants respectfully traverse the outstanding rejection on the merits on the basis that this rejection is clearly based on a hindsight application of the teachings of Applicant's invention relying on isolated teachings in the prior art to reconstruct the claimed invention.

In support of its position, the outstanding Office Action appears to take judicial notice that "one skilled in the art would know that when transmitting signals relaying the location of an object, it would be strongly desired to transmit only when necessary as to not waste current, power, or overall capacity of energy."² Support for this assertion is not stated, and it is respectfully submitted that this statement at the very least hinges on the meaning of the terms "to transmit only" and "when necessary", conditions which Applicant addresses and which are not taught in the prior art.

For example, the outstanding Office Action relies on Englmeier as supporting the taking of judicial notice by virtue of Englmeier's disclosure that a pulse transmission signal is used for the purpose of energy saving (column 5, lines 60-65). However the only possible interpretation of this teaching in Englmeier is that Englmeier teaches the preference of pulse transmission versus continuous sinusoidal transmission, and in fact teaches no limit on the time of transmission as a means of conserving power. Englmeier clearly does not teach limiting transmissions all together, and thus clearly does not teach to transmit "only when necessary".

On the contrary, Englmeier describes a golf ball with a transmitter unit 3, an energy store 4, an energy receiver 7, a control unit 13, and a constant current source 24. Englmeier discloses:

[the] control unit . . . actuates the transmitter unit, with the energy store [4] having a capacity which is dimensioned for a temporally restricted operating period of the control unit and/or the transmitter unit. . . . [T]he transmitter operation is restricted timewise since the transmitter unit can only operate as long as the residual capacity of the energy store is sufficient to operate the control unit or the constant current source. In this manner it is

² Id., page 4, second paragraph.

possible to reliably prevent the transmitter unit being able to transmit disturbing signals over a longer period of time with reducing intensity in accordance with the residual capacity of the energy store.

After the termination of the transmission operation of the transmitter unit of a golf ball, renewed operation is only then possible when the golf ball has been found and recharged. In this way it can be reliably ensured that the localization of another golf ball is not hindered in undesirable manner. . . .

[T]he transmitter unit is controlled by a control unit, connected to the energy store in such a way that the transmitter unit generates periodic transmission signals. . . .

This kind of control unit is realized . . . for pulsed operation of the transmitter unit [which] is controlled by the output signal of the differentiator stage.³

Englmeier reiterates, the transmitter unit 3 is “connected via a transistor switch T1 to the storage capacitor 4 in order to generate a pulsed transmission signal for the purpose of energy saving.”⁴ This pulsed transmission is generated by switching the transistor with a rectangular oscillation from the control unit 13. The control unit 13 is comprised of an astable flip-flop stage 14 and a differentiating stage 15 which “generates periodic transmission signals.”⁵ But since the transmitting unit periodically⁶ transmits signal pulses for an indeterminate time until the energy store is depleted, it is not a timing device which controls the transmission for a predetermined time period after shock actuation.

Indeed, the Englmeier golf ball functions so that, “[a]s soon as the energy store 4 [i.e., capacitor 4] is charged, the subsequent components 13 and 24 and in particular the transmitter unit 3 starts to work, i.e. transmitter signals are radiated via the antenna 25 of the transmitter unit 3.”⁷ The control unit 13 ensures periodic transmission signals,⁸ while the constant current source 24 ensures that the “ball-side transmitter unit generates locating

³ Id., column 2, line 4, lines 12-49.

⁴ Id., column 4, lines 60-63.

⁵ Id., column 2, line 37.

⁶ Defined: “Having or marked by repeated cycles”; “Recurring or reappearing from time to time; intermittent.” THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE (4TH ED. 2000).

⁷ Englmeier, column 4, lines 51-54.

⁸ Id., column 2, lines 34-42.

signals with constant intensity during the transmitter operation.”⁹ As a result, “the transmitter operation is restricted timewise since the transmitter unit can only operate as long as the residual capacity of the energy store is sufficient to operate the control unit or the constant current source.”¹⁰

Englmeier teaches that transmission is continuous as long as the energy store retains energy sufficient for further transmission, and transmission of signal is maintained even during recharging of the energy store. According to Englmeier, transmission is limited by “the residual capacity of the energy store”¹¹ Thus, according to Englmeier, when the golfer finds his ball before the energy store is depleted, continuous transmission is maintained while recharging and remains uninterrupted and continuous for at least another recharging cycle. Therefore the Englmeier golf ball transmits pulsed signals continuously until the Englmeier energy store is depleted, or until the energy store is recharged and then depleted, *not for a predetermined time period*. According to Englmeier, the transmission period of transmitted pulses is not at all controlled. Instead, the transmission period of Englmeier varies as a function of player convenience, and is **indeterminate**, not predetermined as claimed.

Indeed, Englmeier merely discloses a golf ball having a finite energy source and which transmits pulse signals so long as the energy source is not depleted. Englmeier fails to teach shock actuated initiation of transmission as claimed, and fails to teach the claimed “timing device configured to control transmission of the electromagnetic signal for a predetermined time period after [shock] actuation of the switching device.”

Barnhill discloses a golf ball with a “Novel Sound-Emitter Device.”¹² This device, “shock-activated in nature, is provided to be silent through the practice swing, but

⁹ Id., column 2, lines 16-19

¹⁰ Id., column 2, lines 20-27.

¹¹ Id., column 2, lines 16-19.

¹² Barnhill, column 6, line 64 through column 10, line 68; and Figures 6 – 11.

automatically emits a sound upon the ball being struck, and it keeps sounding until the player finds it and wishes it silent for the next shot . . .”¹³

First, Barnhill fails to teach control of transmission of an electromagnetic signal. It thus discloses a different class of golf ball “transmitters.” In fact, Barnhill *teaches away* from a ball which radiates electromagnetic energy because, “the internal components would have to be interiorly of the ball prior to shaping the ball.”¹⁴ Barnhill again *teaches away* from a golf ball containing an electromagnetic signal transmitter because it “can-not be inserted after shape-forming of the ball.”¹⁵ Thus, the actual teachings of Barnhill reinforce that one of ordinary skill in the art would **not be motivated** to combine Barnhill with Englmeier, because Englmeier describes an electromagnetic signal transmitter contained within a golf ball. The Federal Circuit’s recent decision in *Winner International Royalty Corp. v. Wang*, 53 USPQ2d 1580, 1586-1587 (Fed. Cir. 2000), states:¹⁶

.... When an obviousness determination is based on multiple prior art references, there must be a showing of some "teaching, suggestion, or reason" to combine the references. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997) (also noting that the "absence of such a suggestion to combine is dispositive in an obviousness determination"). Whether motivation to combine the references was shown we hold a question of fact. See *In re Dembiczak*, 175 F.3d 994, 1000, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("[P]articular factual findings regarding the suggestion, teaching, or motivation to combine serve a number of important purposes . . .") (emphasis added); ... Evidence of a suggestion, teaching, or motivation to combine prior art references may flow, *inter alia*, from the references themselves, the knowledge of one of ordinary skill in the art, or from the nature of the problem to be solved. See *Dembiczak*, 175 F.3d at 999, 50 USPQ2d at 1617. Although a reference need not expressly teach that the disclosure contained therein should be combined with another, see *Motorola, Inc. v. Interdigital Tech. Corp.*, 121 F.3d 1461, 1472, 43 USPQ2d 1481, 1489 (Fed. Cir. 1997), **the showing of combinability, in whatever form, must nevertheless be "clear and particular."** *Dembiczak*, 175 F.3d at 999, 50 USPQ2d at 1617.

¹³ Id., Abstract.

¹⁴ Id., column 2, line 67.

¹⁵ Id., column 3, line 10.

¹⁶ See also *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 56 USPQ2d 1456, 1459 (Fed. Cir. 2000).

It is respectfully submitted that neither Englmeier nor Barnhill includes a “clear and particular” motivation to combine the teachings of the two references and on the contrary include conflicting teachings above identified. Therefore, Applicant submits that it is only through an impermissible hindsight reconstruction of Applicant’s invention that the rejection of the claims can be understood, and that the rejection is not in compliance with MPEP § 2143.01.¹⁷

Furthermore, Barnhill fails to remedy the deficiencies of Englmeier because as recognized in the outstanding Official Action, Barnhill does not describe a golf ball with the claimed timing device. In particular, Barnhill teaches that “[s]ilencing . . . requires merely the minor task . . . of pushing an available rod . . . through the wall 24’s hole 25, and interiorly of the device far enough that the outer body part . . . of the inner shell body 26 slides . . . past the latch 29; and that latching opens (disengages) the contact of the clip arm 39c and the screwbody 32’s outer head 46.”¹⁸ Thus, the shock activated sounding device taught by Barnhill keeps sounding until the player finds it and wishes it silent for the next shot,¹⁹ i.e. until the player manually shuts off the sound transmission.

Indeed, Barnhill like Englmeier fails to teach provision of a timing device and instead teaches transmission for an indeterminate period of time after actuation, depending on the length of time it takes for the golfer to locate the golf ball and manually deactivate the transmitter. Barnhill thus reinforces the Englmeier teaching of transmitting for an indeterminate time period and BOTH references in fact teach away from the claimed invention in that neither reference teaches provision of a timing device to control transmission of a signal for a predetermined, i.e., determined in advance, time period.

¹⁷ MPEP § 2143.01 “Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge of one of ordinary skill in the art.”

¹⁸ Barnhill, column 9, lines 21-30.

¹⁹ Id., Abstract.

Thus, it is respectfully submitted that the combined teachings of Englmeier and Barnhill fail to disclose or obviate the claimed structure of a distinct “timing device configured to control transmission of the electromagnetic signal for a predetermined time period after [shock] actuation of the switching device.” In the absence of any such teachings, it is respectfully submitted that the combined teachings of Englmeier and Barnhill fail to substantiate a *prima facie* case of obviousness and that the final rejection of Claims 1 and 12 should be reversed.

The deficiencies of Englmeier and Barnhill are not remedied by Stoffer. Stoffer discloses a system and method for synchronizing a receiver of an electronic article surveillance system and a transmitter thereof. The Stoffer electronic article system is of the type “including a transmitter for providing in a selected area an electromagnetic field periodically swept in frequency over a predetermined range of frequencies for causing tags in the selected area to generate tag signals containing a frequency within the predetermined range of frequencies and a receiver including a detector for receiving the tag signals and providing output indication of detected tag signals, as a modulator in its transmitter which modulates the electromagnetic field and a modulation response circuit in its receiver for synchronizing the detector with the frequency of the electromagnetic field.”²⁰

Quite clearly, Stoffer has nothing to do with golf ball location. Thus it is not at all clear why one skilled in the art would look to Stoffer for any teachings in relation to a golf ball. The outstanding Office Action provides no such explanation.

The outstanding Office Action finds Stoffer pertinent on the basis that “Stoffer discloses a timing device **capable of being configured** to control transmission of the signal for a predetermined time after actuation (column 5, lines 41-67).”²¹ According to the Official Action, “in incorporating this energy saving mechanism [i.e., pulse transmission], Englmeier

²⁰ Stoffer, Abstract.

²¹ Official Action dated December 9, 2005, page 4, lines 4-6.

discloses a transmitter than **can be** turned ON and OFF by a timer circuit taught by Stoffer (column 5, lines 41-67) in order to limit the time during which the ball transmits.”²² These statements in the outstanding Office Action underscore the hindsight approach taken in the outstanding Office Action. Assuming that indeed a Stoffer timer circuit **could be** used in an Englmeier golf ball transmitter, that alone does not provide motivation for making the combination relied upon in the outstanding rejection.

Indeed, there must be some motivation in the references themselves for combining these references. In fact, Englmeier includes no teaching of transmitting for only a limited time period, and instead teaches transmitting until its power source is depleted or it is recharged, whereas Stoffer teaches “an alarm timer 50 that will trigger an alarm for a predetermined time period.”²³ Merely triggering an alarm for a predetermined time period, as taught by Stoffer, provides no motivation to apply a timer to the Englmeier golf ball transmitter which is in no need for triggering an alarm. In fact, there is no teaching in Stoffer for providing a timer to limit a transmission period or to limit power consumption, and there is no teaching in Stoffer to apply a timer to Englmeier to limit Englmeier transmission time or power consumption. Clearly Stoffer fails to address the judicial notice stated at page 4 of the outstanding Office Action regarding “to transmit only when necessary as to not waste current, power, or overall capacity of energy,” as the Stoffer time appears irrelevant to that purpose. At most, Stoffer teaches a timer used for a different purpose, i.e., to trigger an alarm, and this highly limited teaching, buried at column 5 of the Stoffer patent, certainly does not teach a person skilled in the art to provide the Englmeier golf ball with a timer to control electromagnetic transmission for a predetermined transmission period after actuation.

Thus, when the actual teachings of the prior art are considered without hindsight, it is clear that the two golf ball transmitter references, Englmeier and Barnhill, teach

²² Id., page 4, lines 15-17.

²³ Stoffer, column 5, lines 62-64.

indeterminate transmission times, and the Stoffer reference applied to remedy this deficiency has nothing to do with golf balls, has nothing to do with limiting transmission times, and has nothing to do with saving energy consumption even in its own environment, much less in a golf ball transmitter environment. Accordingly, it is respectfully submitted that the outstanding ground for rejection is clearly based on improper hindsight and is traversed on that basis. Withdrawal of the outstanding grounds for rejection on the merits and allowance of Claims 1-20 is therefore respectfully requested.

Further commenting on the outstanding rejection of Claim 3, the outstanding Office Action states the position that “a second timer circuit delaying the transmission for a predetermined amount of time is just a duplication of parts (M.P.E.P. § 2144), which is duplicated from the timer circuit taught by Stoffer.²⁴ It is respectfully submitted that this line of reasoning is incorrect because it fails to take into consideration the functionality provided by the provision of the second timing circuit in the context of a golf ball transmitter. Without the provision of a second timer, transmission of signal and energy exhaustion would continue from the moment of shock actuation, i.e., from the time period T_0 shown in Applicant’s Figure 4. Provision of the second timing circuit enables delay of transmission, and conservation of power, until the time T_0 shown in Figure 4. Thus, the provision of first and second timers as recited in Claim 3 is not “merely duplicative,” but instead promotes a completely novel functionality neither taught nor recognized in any of the references of record. On the contrary, none of the references of record teach or suggest an embodiment in which transmission during the flight of the golf ball is avoided, and none of these references teaches the functionality by which the delay of transmission occurs until after the flight of the golf ball.²⁵ It is respectfully submitted that the reliance in the outstanding Office Action on

²⁴ Official Action dated December 9, 2005, page 4, last paragraph, and page 6, lines 8-10.

²⁵ Indeed, as is evident from the embodiment described at page 8, lines 4-13, the provision of the second timer as recited in Claim 3 saves power consumption, as much as 50% for example, if the transmission is avoided for “several seconds,” and then transmission commences for “several seconds.”

M.P.E.P. § 2144 completely misses the point as M.P.E.P. § 2144 is inapplicable to the claimed subject matter at hand. Accordingly, the rejection of Claim 3 is further traversed.

Consequently, in view of the above comments, it is respectfully submitted that the outstanding grounds for rejection have been overcome and that Claims 1-20 are in condition for allowance. An early and favorable action to that effect is respectfully requested.

Respectfully submitted,

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